

A NEW SPECIES OF *MYSTROTHRIPS* PRIESNER (THYSANOPTERA: PHLAEOTHRIPIDAE) FROM CHINA¹

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ABSTRACT: *Mystrothrips longantennus* sp. nov., of the Subfamily Phlaeothripinae is described and illustrated from China. The new species can be distinguished from *M. nipponicus* Okajima from Japan by post-ocular long, antennae more than 2.1 times as long as head length, B₂ on abdominal tergites IX about as long as tube length. New distributional information of *M. flavidus* Okajima in China is also provided.

KEY WORDS: leaf litter thrips, Phlaeothripinae, *Mystrothrips*, new species, China

The genus *Mystrothrips* was established by Priesner from Java in 1949 with the type species *Sagenothrips dammermani*. Since then, five other species have been added including *M. clavatoris* from Brazil (Hood, 1954), *M. dilatus* from the Solomon Islands (Mound, 1970), *M. reteanum* from Korea (Shin and Woo, 1999), and the Japanese species *flavidus* and *nipponicus* (Okajima, 2006). These species belong to Glyptothripini and differ from other species of the tribe by having the pronotal anter-ocular setae well developed (Mound and Marullo, 1996; Okajima, 2006). The genus *Mystrothrips* Priesner is divided into two completely different groups based on the morphological characters (Mound, 2007). One group has major body setae elongate, not fan-shaped; cheeks not constricted behind eyes; two sense-cones on antennal segment III, and it comprises *M. flavidus* and *M. reteanum*. The other four species have major body setae not elongate, fan-shaped; cheeks constricted behind eyes; three sense-cones on antennal segment III form the second group.

Diagnosis of the genus includes the following features: (1) body strongly reticulate including antennae and leg; (2) eyes distinctly separated from cheeks by a deep constriction; (3) head longer than broad, distinctly produced in front of eyes, longer than prothorax; (4) Major body setae well developed, stout, spoon-shaped; (5) one pair of stout and short postoculars present; (6) antennae segment VIII constricted at base, sharply separated from VII, three sense-cones on antennae segment III and IV, long and slender; antennae terminal setae longer than segment VIII; (7) pelta broad, reticulate, withdrawn into concave anterior margin of tergite II; Tergites II-VII with two pairs of sigmoid wing-retaining setae; (8) sternites with a row of about 6 pairs of setae.

Only one species, *M. flavidus* Okajima, has been recorded from China. In this paper, a new species of the genus is described.

METHODS

All thrips specimens were extracted by using Tullgren funnels from leaf litter, and then sorted and preserved in 75% alcohol. Type specimens were mounted with Canada balsam. Illustrations were made with the help of a camera Lucida. Measurements are given in micrometers. All specimens were deposited at the Insect Collection, Department of Entomology, South China Agricultural University (SCAU).

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SYSTEMATIC ENTOMOLOGY

Mystrothrips flavidus Okajima

Mystrothrips flavidus Okajima, 2006: 485. (Type locality: Ogasawara Islands, Japan)

Diagnosis: Body strongly reticulate including antennae and leg; pronotum with five pairs of major developed setae; head short, as long as broad; cheeks not constricted behind eyes; antennal segments short, segment III about 1.4 times as long as broad; antennal segment III with two sense-cones; major body setae elongate, not fan-shaped.

Examined Specimens: P. R. China, Guangdong Province: 1 male (microptera), Fengkai, Mt. Heishiding (23°24'38"N, 111°54'45"E), 20. Jul. 1987, leg. Xiao-Li Tong from litter of chestnut forest; 1 female (macroptera), Shixing, Chebaling National Natural Reserve (24°42'29"N, 114°13'12"E), 14. Jul. 1989, leg. Xiao-Li Tong; 5 females (microptera), 2 males (microptera), Guangzhou, Longdong (23°13'57"N, 113°23'48"E), 20. May. 2005, leg. Jun Wang from leaf-litter of *Acacia mangium* plantation and *Cunninghamia* forest; 2 females (microptera), 1 male (microptera), Guangzhou, Longdong, 20. Nov. 2005, leg. Jun Wang from bamboo litter; 8 females (microptera), 3 males (microptera), Guangzhou, Longdong, 1. Dec. 2006, leg. Jun Wang; 14 females (1 macroptera and 13 microptera), 11 males (microptera), Guangzhou, Botanical Garden of South China Agricultural University (23°09'28"N, 113°21'15"E), 4-28. Sep. 2005, leg. Jun Wang; 4 females (1 macroptera and 3 microptera), 2 males (microptera), Longmen, Mt. Nankunshan (23°38'38"N, 113°53'02"E), 10.Sep.1987, leg. Yi Wang from dry grass; 1 female (microptera), 1 male (microptera), Conghua, Mt. Wuzhishan (23°43'43"N, 113°48'15"E), 9. May. 2005, Leg. Jun Wang; 7 females (microptera), 1 male (microptera), Conghua, Shanyatang (23°44'07"N, 113°47'48"E), 28. Oct. 2004, leg. Jun Wang; 1 female (microptera), 2 males (microptera), Haifeng, Gongping (23°05'41"N, 115°19'31"E), 13. Mar. 2005, Leg. Jun Wang from litter of *Eucalyptus* plantation.

Distribution: China (Guangdong Province: Fengkai, Shixing, Guangzhou, Longmen and Conghua); Japan.

Mystrothrips longantennus, NEW SPECIES

(Fig. 1 A-I)

Diagnosis: Body strongly reticulate including antennae and leg; pronotum with five pairs of major developed setae; cheeks constricted just behind eyes; head as long as broad or a little longer; antennae more than 2.1 times as long as head length; antennal segment III with three sense-cones; major body setae not elongate, fan-shaped.

Mystrothrips longantennus sp. nov. is somewhat similar to *M. nipponicus* Okajima from Japan but can be distinguished from the latter by the following features: postocular long, antennae more than 2.1 times as long as head length, B₂ on abdominal tergites IX about as long as tube length; whereas the latter species postocular setae very short, antennae 1.85 times as long as head length, B₂ on abdominal tergites IX shorter than tube length.

Macropterous Female: Body yellow with brown shades at sides of head, metathorax, abdominal tergite II and apex of tube. Antennal segments I and II brown, III yellow, IV-VIII yellowish brown. Wings gray brown, but paler at base and middle.

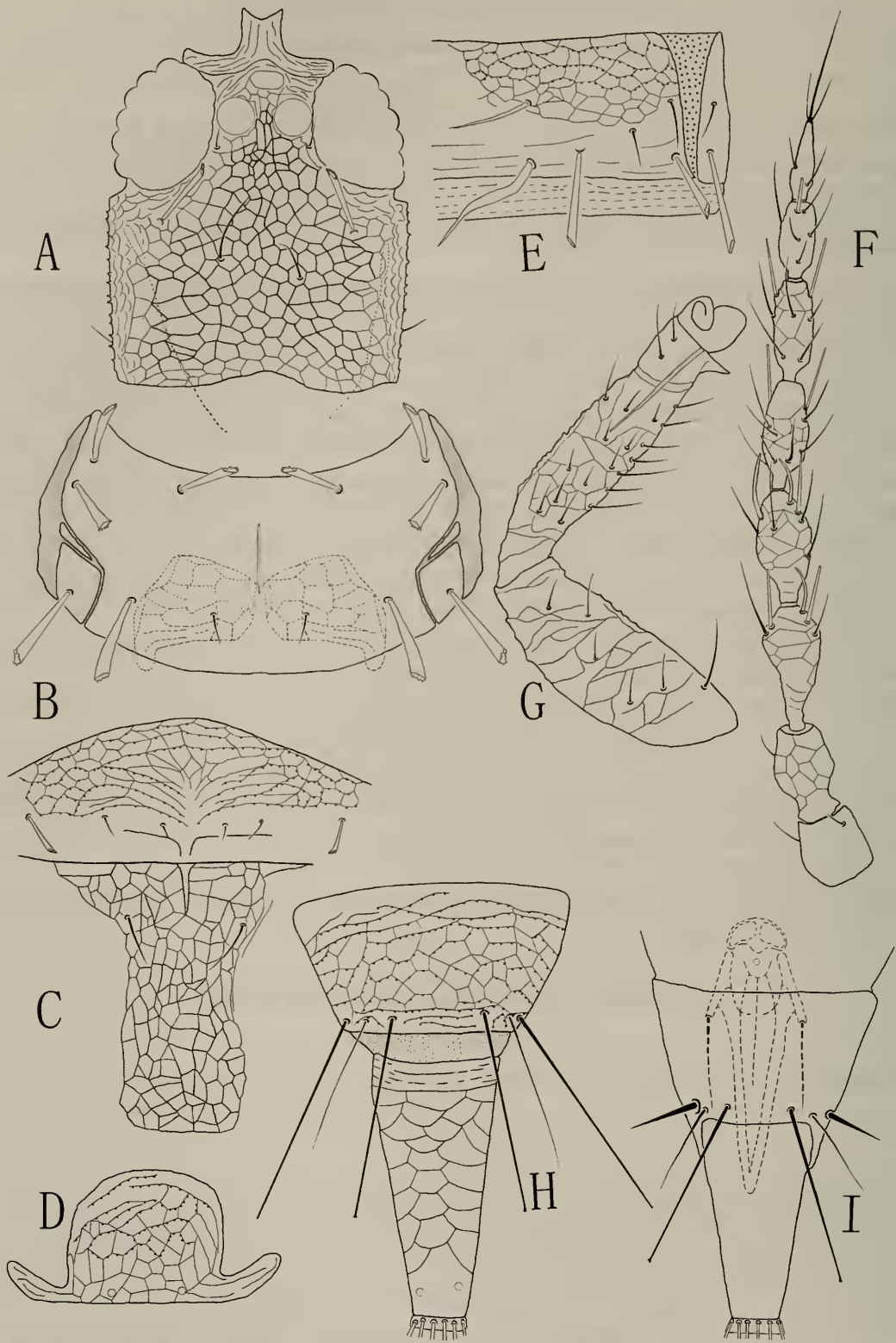


Fig. 1. *Mystrothrips longantennus*, new species. Female (macroptera): A. head. B. prothorax. C. mesonotum and metanotum. D. pelta. E. abdominal tergite V (right half). F. antenna. G. foreleg. H. abdominal tergite IX and tube. Male (microptera): I. abdominal tergite IX, tube and male genitalia.

Head: Head (Fig. 1. A) about 1.1 times as long as broad (including preocular part) and projecting in front of eyes; cheeks almost parallel and strongly constricted just behind eyes, dorsum of head entirely reticulated; eyes about 0.3 times as long as head; postocular setae about 2/3 as long as eyes, strongly expanded at apex, fan-shaped; ocelli well developed, postocellar setae pointed at apex and a little longer than posterior ocellus; antennae (Fig. 1. F) more than 2.1 times as long as head, segment III and IV each with three sense-cones, segment III longest, terminal setae as long as segment III, length/width of segments: I 1.07, II 1.36, III 2.23, IV 1.92, V 2.50, VI 2.40, VII 2.13, VIII 3.40; maxillary stylets not reaching postocular setae, U-shaped.

Thorax: Pronotum (Fig. 1. B) at middle 0.59 times as long as head length and entirely reticulate; five pairs of major setae developed, strongly expanded at apex, fan-shaped; epimeral sutures complete; praepectus very weak and almost not visible; fore tarsal tooth present (Fig. 1. G); metanotum polygonally reticulated (Fig. 1. C); forewing about 1/3 of total body length, three pairs of basal setae expanded at apex and B₃ setae distinctly longer than the others.

Abdomen: Pelta (Fig. 1. D) hat-shaped and distinctly reticulated; tergites II-VII (Fig. 1. E) each with two pairs of sigmoid wing-retaining setae, with B₁ and B₂ pan-shaped and the latter distinctly shorter; B₁ and B₂ on tergite IX (Fig. 1. H) blunt at apex, B₁ distinctly shorter than tube length and B₂ about as long as tube length; tube (Fig. 1. H) 0.68 times as long as head length.

Measurements: Total body length 2000; head L/W (205/180); eyes length 63, diameter of ocelli 20; pronotum median length 120; tube length 140, tube maximum width 75. Antennal total length 435, segments I-VIII length (width) as follows: 40(38); 48(35); 73(33); 63(33); 63(25); 60(25); 43(20); 43(13). Postocular setae 38; antennal terminal setae 75; pronotum anteroangular setae 30, anteromarginal setae 32, midlateral setae 32, posteroangular setae 45, epimeral setae 45; forewing sub-basal setae B₁ 25, B₂ 27, B₃ 33; tergum IX B₁ setae 118, B₂ setae 138, pointed setae between B₁ and B₂ 88; annals 88.

Micropterous Female: Color and structure similar to macropterous female. However, ocelli smaller and postocellar setae variable in length and shape, pointed or expanded at apex; tube 0.65 times as long as head length.

Measurements: Total body length 1960; head L/W (200/170); eyes length 58; pronotum median length 115; tube length 130, tube maximum width 73. Antenna 445, segments I-VIII length (width) as follows: 35(38); 48(35); 75(35); 68(35); 68(28); 60(25); 40(23); 40(13). Postocular setae 38; antennal terminal setae 75; pronotum anteroangular setae 38, anteromarginal setae 40, midlateral setae 45, posteroangular setae 43, epimeral setae 43; forewing basal setae B₁ 25, B₂ 25, B₃ 30; tergum IX B₁ setae 113, B₂ setae 125, pointed setae between B₁ and B₂ 75.

Micropterous Male: Body color and appearance similar to micropterous female. However, B₂ seta on abdominal tergite IX (Fig. 1. I) pointed at apex, shorter and strong.

Measurements: Total body length 1540; head L/W 158/150; eye length 50; pronotum median length 113; tube length 115, tube maximum width 65. Antennal total length 188, segments I-VIII length (width) as follows: 40(35); 43(33); 63(33); 58(30); 55(28); 50(25); 40(20); 38(13). Postocular setae 35; antennal terminal setae

65; pronotum anteroangular setae 35, anteromarginal setae 38, midlateral setae 38, posteroangular setae 43, epimeral setae 45; tergum IX B₁ setae 103, B₂ setae 50, pointed setae between B₁ and B₂ 70.

Type Data: *Holotype*: female (macroptera), P. R. China: Yunnan, Xishuangbanna (21°31'N, 101°24'E), 9. Sep. 1993, leg. unknown. *Paratypes*: P. R. China, Yunnan Province: 8 females (microptera), the same data as holotype; 1 female (microptera), Mengla, Tropical Botanic Garden (21°27'59"N, 101°34'59"E), 9. Apr. 1992, leg. unknown; 3 females (macroptera), Mengla, 10. Apr. 1992, leg. unknown. P. R. China, Guangdong Province: 2 females (1 macroptera and 1 microptera), 1 male (microptera), Guangzhou, Botanical Garden of South China Agricultural University (23°09'28"N, 113°21'15"E), 21. May. 2005, leg. Jun Wang; 1 female (microptera), Zhaoqing, Mt. Dinghushan (23°10'26"N, 112°32'28"E), 3. Oct. 1986, leg. Xiao-Li Tong; 1 female (microptera) and 1 male (microptera), Conghua, Shimen National Forest Park (23°38'46"N, 113°45'17"E), 19. Sep. 2004, leg. Jun Wang; 4 females (microptera), Foshan, Gaoming, Heshui (22°29'53"N, 111°30'58"E), 27. Mar. 2005, leg. Jun Wang.

Etymology: The specific epithet is a combination of Latin word *long* and *antenn*, referring to long antennae.

Distribution: China (Yunnan: Jinghong and Mengla; Guangdong: Guangzhou, Conghua, Zhaoqing and Foshan).

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